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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,053	02/14/2002	Reddy Vangala	WC0010-A	8670

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EXAMINER
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GLENN, KIMBERLY E

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicant(s)	VANGALA ET AL.	
	Examiner	Art Unit	
	10/076,053	2817	
	Kimberly E Glenn		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 5, 6, 8-21, 28 and 32 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 6, 8-13, 14-21, 28 and 32 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☒ Claim(s) 1, 2, 5, 6, 8-21, 28 and 32 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All   b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8/8/03                      6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**  
***Claim Objections***

Claims 29-31 are objected to because of the following informalities: Claims depend upon a cancelled claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 14-16, 21 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Komazaki (JP '905).

Komazaki (figs. 1 and 2) discloses a duplexer having a filter comprising: a substantially U-shaped core of dielectric material 100, 101, 102 including a transmit arm 100, a receive arm 101 and a base portion 102 joining the transmit arm to the receive arm, each arm having a series of through-holes; a wide area of metallization (i.e., each filter is covered with a ground conductor on the outer peripheral side surfaces), first and second unmetallized areas (open faces 103, 104) surrounding a plurality of through holes on the outward facing surface of the transmit arm and receive arm, respectively; a transmit pad, receiver pad and antenna pad metallized areas 108, 107, 109; and a bridge metallized area extending between the transmit arm and the receive arm (connected through a conductive layer on the base portion 102, see also abstract).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6, 8-13 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komazaki (JP '905).

The specific size of the filter and operating passband frequency ranges are considered as an obvious design modification to obtain a desired filter characteristics.

Claims 17-20 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komazaki (JP '905) in view of Agahi-Kesheh et al. (US '335).

Komazaki does not show providing trap resonators in transmit and receive arms. However, providing trap resonators in a duplexer is well known in the art. Agahi-Kesheh et al. discloses a similar duplexer having trap resonators 304, 336 in reception and transmit filters.

It would have been obvious to one of ordinary skill in the art to provide trap resonators in transmit and receive arms in the device of Komazaki to provide attenuation poles as taught by Agahi-Kesheh et al. (col. 9, lines 5-8).

Regarding claims 19 and 20, Agahi-Kesheh et al. (fig. 3) also discloses metallization patterns on reception and transmit filters to obtain desired filter characteristics. Thus, providing metallization patterns similar to applicant's figures 2 and 3 in the device of Komazaki would be an obvious design modification since it is well known in the art to provide metallization patterns

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on a surface of the dielectric filter to obtain a desired filter characteristic as shown in

Agahi-Kesheh et al.

Regarding claim 32, Agahi-Kesheh et al. (figs. 2-4) discloses a bridge resonator hole 350, 358 is capacitively coupled to the antenna pad 392. It would have been obvious to one of ordinary skill in the art to provide a capacitive coupling between the antenna pad and bridge metallized area in the device of Komazaki since such design technique is well known in the art.

#### ***Allowable Subject Matter***

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments filed 10/30/2003 have been fully considered but they are not persuasive. With regards to applicant argument that the Komazaki reference disclose the dielectric core in three separate pieces, applicants claim do not recited the limitation of the U shaped core being formed as a single core but merely states a U shaped core. Komazaki reference does disclose a U shaped core. With regard to the argument concerning the operating frequency ranges and the size of the filter, examiner cites Sakuragawa et al US Patent 6,472,953 column 7, lines 59-63 which states that the transmission band is 1850 to 1885 MHz and the reception band is 1930 to 1965. Kojima et al US Patent 6,677,837 disclose a filter comprised of dielectric block having a length of 18.8mm, a width of 4.1 mm. See column 5 lines 21-33. Hirai et al US Patent 5,576,672 disclose in column 14 lines 36-38 that a center frequency of 1800MHz the insertion loss is 2.3db or less. These reference show that is well known in the art for the

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operating frequency range to be about 1800 to 1900 MHz for the transmitter and about 1930 to 1990 for the receiver, the insertion loss to about 2.5 db and for the filter size to be about 17mm long and 4 mm high.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ito US Patent 6,057,746 disclose a connecting means between the transmit filter and the receiver filter.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (571) 272-1761. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



**BENNY T. LEE**  
**PRIMARY EXAMINER**  
**ART UNIT 2817**

Kimberly E Glenn  
Examiner  
Art. Unit 2817

keg